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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/529,192	06/26/2000	THOMAS JUNG	SPM-290-A	9266

7590 10/03/2003

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TROY, MI 48084

EXAMINER

MARKHAM, WESLEY D

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 10/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/529,192

Applicant(s)

JUNG ET AL.

Examiner

Wesley D Markham

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,5-9 and 12-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,5-9,12-23 and 25-33 is/are allowed.
- 6) ☒ Claim(s) 24 and 34-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 June 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application as paper #28 on 7/14/2003 (with a certificate of mailing dated 7/11/2003) after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office Action (i.e., the final Office Action, paper #23, mailed on 3/11/2003) has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 7/14/2003 has been entered.
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Response to Amendment

2. Acknowledgement is made of applicant's amendment H, filed as paper #29 on 7/14/2003, in which the specification of the instant application was amended, Claims 1, 5, 8, 9, 14, 22 – 24, and 33 were amended, and Claim 4 was canceled. Claims 1, 5 – 9, and 12 – 36 are currently pending in U.S. Application Serial No. 09/529,192, and an Office Action on the merits follows.

Information Disclosure Statement

3. The information disclosure statement filed on 10/22/2002 as paper #21 fails to comply with 37 CFR 1.98(a)(3) because it does not include a concise explanation of the relevance, as it is presently understood by the individual designated in 37 CFR

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1.56(c) most knowledgeable about the content of the information, of each patent listed that is not in the English language, specifically documents (1) EP 0 879 897 A1 and (2) DD 294 511 A5. The IDS has been placed in the application file, but the aforementioned two documents have not been considered.

Drawings

4. The drawings (2 sheets, 4 figures) filed on 6/26/2000 are approved by the examiner.

Claim Objections

5. The objections to Claims 14, 23, and 24, set forth in paragraph 5 of the previous Office Action (i.e., the final Office Action, paper #23, mailed on 3/11/2003), are withdrawn in light of applicant's amendment H in which minor typographical errors in the claims were corrected.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. The rejection of Claims 1, 4 – 9, 12 – 22, 25 – 31, and 33 under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention, set forth in paragraphs 8 – 12 of the previous Office Action, is withdrawn in light of applicant's

amendment H for the following reasons: (1) Independent Claim 1, from which Claims 5 – 9, 12, 13, and 25 – 27 depend, was amended to recite, “the surfaces to be treated” throughout the claim as opposed to, “the substrate surfaces”, thereby eliminating the antecedent basis issue, (2) independent Claim 14, from which Claims 15 – 22 and 28 – 31 depend, was amended to clearly state that the anode is operable to receive an activating voltage, (3) Claim 22 was amended to more clearly define the nature of the “deflection elements”, and (4) the dependency of Claim 33 was corrected.

8. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

9. The rejection of Claims 23, 24, and 32 – 36 under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement for containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, set forth in paragraphs 14 – 15 of the previous Office Action, is withdrawn in light of applicant's amendment H in which independent Claim 23 (from which Claims 32 and 33 depend) and independent Claim 24 (from which Claims 34 – 36 depend) were amended to remove the limitation that the “means for activating said discharge”

(Claim 23) and "the means for supplying electrical energy" (Claim 24) are integrated outside of the discharge region.

10. Claims 24 and 34 – 36 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, independent Claim 24 (from which Claims 34 – 36 depend) requires that the anode be integrated outside of the discharge region. However, after reviewing the specification as originally filed, the examiner notes that the placement of the anode is described by the applicant to be "at the edge of the gas discharge" (page 3, second full paragraph), not outside of the discharge region as is presently required by Claims 24 and 34 – 36. Therefore, Claims 24 and 34 – 36 contain subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, and for this reason, the claims fail to comply with the "written description requirement".

11. Please note that, in light of applicant's amendment H, the 35 U.S.C. 102(b) and 35

U.S.C. 103(a) rejections based on Yamada (JP 63-026373 A), set forth in paragraphs 18 – 24 of the previous Office Action, are withdrawn. Specifically, Yamada does not teach or reasonably suggest that (1) the substrate surfaces /

surfaces to be treated are supplied by one of two flat, parallel substrates or at least one continuously moving band-shaped substrate, as required by independent Claims 1 and 14, or (2) the elements of the surface treatment process / device, such as the means for supplying gas, are integrated outside of the discharge region, as required by independent Claims 23 and 24.

Allowable Subject Matter

12. Claims 1, 5 – 9, 12 – 23, and 25 – 33 are allowed. Claims 24 and 34 – 36 are rejected under 35 U.S.C. 112, first paragraph, for the reasons set forth in paragraph 10 above, but no prior art has been applied against the claims.

13. The following is a statement of reasons for the indication of allowable subject matter: Independent Claims 1, 14, 23, and 24 are all directed to a method / device for the surface treatment of at least one electrically conducting substrate or a substrate that has been coated so as to be electrically conducting, the surface treatment being carried out by a hollow-cathode glow discharge in which the substrate surfaces restrict the discharge region and form the hollow-cathode. Claims 1 and 14 require that the substrate surfaces be supplied by one of two flat, parallel substrates or at least one continuously moving band-shaped substrate, and that the discharge is / can be activated by only one of a DC voltage, a pulsed DC voltage, and an AC voltage having a frequency of up to 50 MHz. Independent Claims 23 and 24 require that various elements of the surface treatment process / device be integrated outside of the discharge region. While Yamada (JP 63-026373 A) teaches treating the

surfaces of an electrically-conductive substrate by using a hollow-cathode glow discharge process / device in which the substrate itself acts as the cathode, the substrate taught by Yamada is a tube, not two flat, parallel substrates or at least one continuously moving band-shaped substrate, as required by independent Claims 1 and 14. Additionally, the means for supplying gas in Yamada is located inside of the tube (i.e., within the discharge region), not outside of the discharge region as required by independent Claims 23 and 24. Echizen et al. (USPN 5,527,391) does not teach or reasonably suggest the types of activating voltages (DC, pulsed DC, and AC up to a specific frequency) required by amended independent Claims 1 and 14 or the integration of the process / device elements outside of the discharge region required by amended independent Claims 23 and 24. Coleman (USPN 3,068,510) teaches a method / device for treating two electrically-conductive, continuously moving, parallel, band-shaped substrates by a glow discharge process in which a voltage (i.e., a potential difference) is applied between the two substrates, thereby causing the substrates to act as "electrode-like surfaces". After careful consideration, the examiner notes that, in the process of Coleman, it appears as though one of the substrates acts as the cathode (i.e., the more negatively charged substrate) and the other substrate acts as the anode (i.e., the more positively charged substrate), and therefore the glow-discharge in Coleman is not a "hollow-cathode glow discharge" in which the substrate surfaces enclose the discharge region and form a hollow-cathode, as required by the applicant's claims. Izu et al. (USPN 5,411,591) teaches a method / device for the microwave deposition of films onto a continuously moving,

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band-shaped substrate that encloses the discharge / deposition region on both sides. However, Izu et al. does not teach or reasonably suggest that the band-shaped substrate can or does form a "hollow-cathode" as required by the applicant's claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley D Markham whose telephone number is (703) 308-7557. The examiner can normally be reached on Monday - Friday, 8:00 AM to 4:30 PM.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shrive Beck can be reached on (703) 308-2333. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

WDM

Wesley D Markham
Examiner
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WDM


SHRIVE P. BECK
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